STATE OF CALIFORNIA-RESOURCES AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS
4800 STOCKDALE HWY., SUITE # 417
BAKERSFIELD, CALIFORNIA 93309
(805) 322-4031

November 4, 1983

Mr. Bill Pfister
California Regional Water Quality
Control Board
3374 East Shields Ave., Room 18
Fre no, CA 93726

Dear Mr. Pfister:

Attached is an application from Petro-Lewis Corporation to conduct a water disposal project in the Olcese zone in Kern Bluff field.

The operator proposes to drill well "SWD" 1 to injection. Additional details are:

1. Geology - overlain by impermeable silts.
2. Zone analysis - 17,000 ppm. Calculations were taken from E-logs of nearby wells. A chemical analysis of the zone will have to be submitted to us prior to commencing injection.
3. Injection fluid analysis - 645.0 ppm.
4. See attached for location. Wells within the project area have been reviewed and found to either not penetrate the injection zone or to have been completed in such a fashion as to not create an avenue for fresh water contamination.
5. Operator indicates disposal of scrubber waste in this well may be proposed at a later date.

Additional supportive data, which are interpretive and therefore confidential, are available for your inspection at this office.

The proposed injection zone has been exempted by the EPA.

Please submit to this office any comments you may have on this proposed project. Your comments are due within 14 calendar days from the date of this letter.

Yours truly,

David Clark

David Clark
Associate Oil and Gas Engineer

DC:mm
cc: -EPA ✓
-DWR

PETRO LEWIS CORPORATION
Oil and Gas Producers

Western Region
5500 Ming Avenue, Suite 300
Bakersfield, California 93309
805/398-5100

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September 13, 1983

Mr. Dave Clark
State Division of Oil and Gas
4800 Stockdale Highway, Suite 417
Bakersfield, California 93309

Dear Mr. Clark:

Engineering and geological data requested by the D.O.G. for the proposed Kern Bluff disposal well is enclosed. Disposal of produced water from the Transition and Santa-Margarita sands is the primary objective for drilling the Kern Bluff disposal well. The proposed bottom hole location of the injection well is 150'S and 150'W of the center of Section 18, T29S, R29E, Kern County, California.

Contingent on permitting, the proposed injection well will be used to dispose of scrubber waste. Based on our total disolved solids calculations, the Olcese formation stands the best chance of being permitted for scrubber waste disposal (See Exhibit 1). Calculations are based on the attached logs from Needham-Bloemer #58 and Needham-Bloemer #36. The Rwa method was used to calculate the Olcese formation average T.D.S..

The Olcese formation is very suitable for waste disposal. In addition to the high T.D.S. concentration, the Olcese formation is bound above and below by the Round Mountain and Freeman-Jewett silts respectively. These thick, impermeable silts provide excellent horizontal barriers to vertical flow. The geological study including cross sections, a contour map, and representative E-log is attached. Structure map contours represent the Vedder formation top.

Reservoir parameters used for the disposal well engineering study are listed in Exhibit #2. Reservoir parameters are based on logs and core descriptions from the Olcese formation (Kern Bluff Field). Also, sidewall core analysis from the Sampson Resources SPA #68-15 (Ant Hill Field) was used to determine average permeability.

To determine the area "affected" by the project, two parameters were considered: 1) Radial advance of the injection front and 2) pressure effects caused by the frontal advance. Based on a total cummulative injection volume of 49 x 10^6 BBL over an expected project life of 10.5 years, the average daily injection rate equals 12,785 BPD. Using the aforementioned daily injection rate and Olcese reservoir parameters,

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radial front advancement and pressure effects were calculated (See Exhibit #3). For all practicle purposes, the pressure effects are negligible beyond a one-half mile radius from the wellbore.

Muir #13 is the only well penetrating the Olcese that falls within the one-half mile radius. Muir #13 was plugged and abandoned in August, 1955. The abandonment procedure and wellbore diagram for Muir #13 are attached.

An injection plan for the proposed well is given in Exhibit #4. The Olcese formation will be perforated in appropriate intervals from ±2780' to ±3620'. Maximum allowable surface pressure was calculated to be 1020 psi. See Exhibit #4 for further injection plan details.

If you require any additional information or wish to discuss in further detail, please contact me.

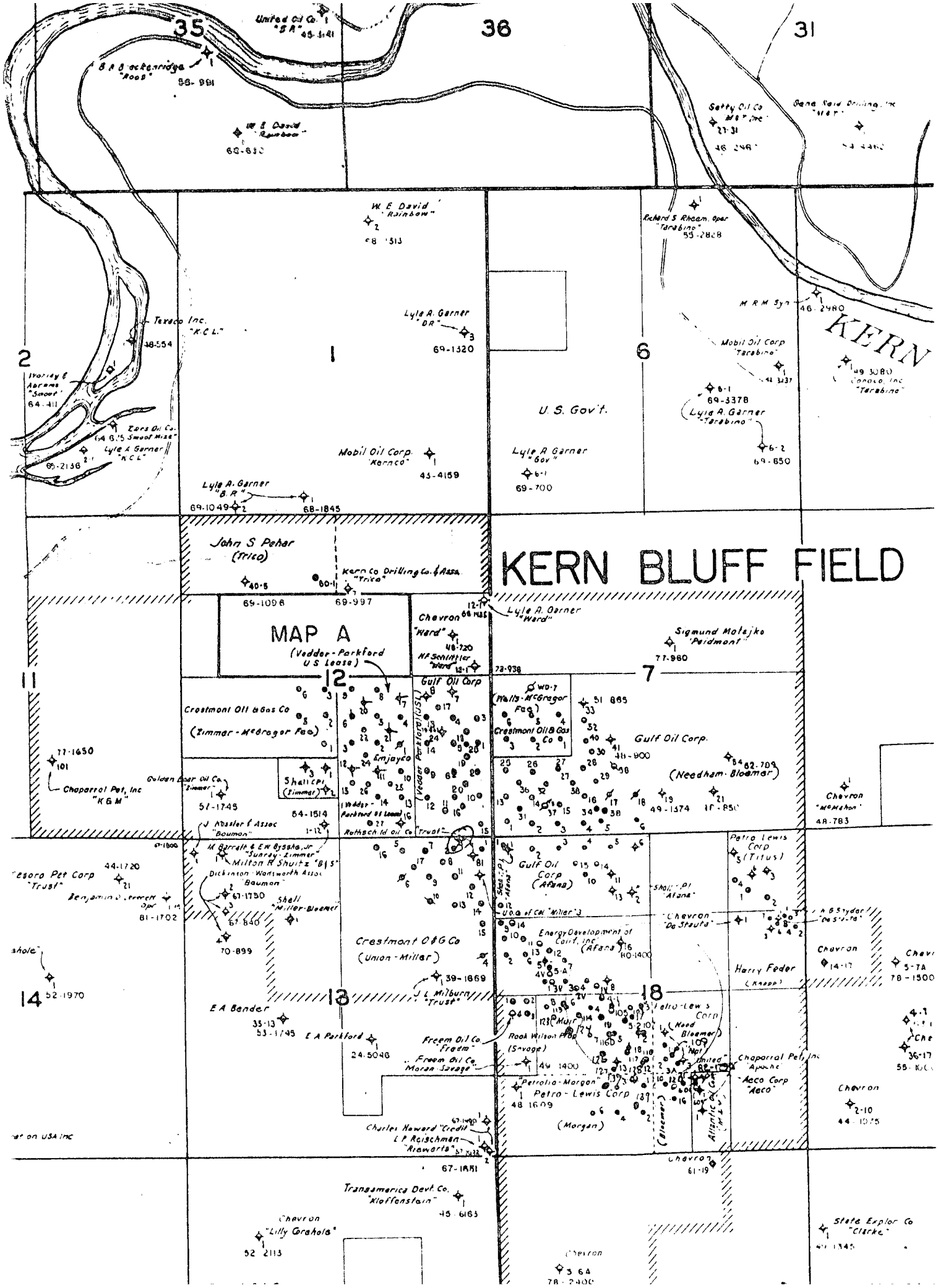
Sincerely,

Kyle W. Hudson

Kyle Hudson
Development Engineer

KH:mj

Attachments


KERN BLUFF FIELD
MAP A
(Vedder-Parkford U S Lease)
35
36
31
2
1
6
11
12
7
14
13
18
KERN
United Oil Co. "S A"
B R Bockenridge "Roos"
W E David "Rainbow"
Getty Oil Co "Mar"
Richard S Rheem, Oper "Terabino"
Lyle A. Garner "DR"
Texaco Inc. "K.C.L."
Mobil Oil Corp "Terabino"
Conoco, Inc "Terabino"
Lyle A. Garner "Terabino"
U. S. Gov't.
Lyle A. Garner "Gov"
Mobil Oil Corp. "Kernco"
Lyle A. Garner "B. R."
Lyle A. Garner "K C L"
John S Pehar (Trico)
Kern Co Drilling Co. & Assc. "Trico"
Lyle A. Garner "Ward"
Chevron "Ward"
Sigmund Matajko "Paidmont"
Crestmont Oil & Gas Co (Zimmer-McGregor Fee)
Gulf Oil Corp
Vedder Parkford (U.S.)
Emjayco
Shell Cpl (Zimmer)
Gulf Oil Corp. (Needham-Bloomer)
Chaparral Pet, Inc "K G M"
Golden Bear Oil Co "Zimmer"
Chevron "McMahon"
Petro Lewis Corp (Titus)
Gulf Oil Corp (Afana)
Shell Cpl "Afana"
Chevron "De Stefano"
Energy Development of Calif, Inc (Afana)
Crestmont O & G Co (Union-Miller)
Harry Feder (Knapp)
Petro-Lewis Corp (Need-Bloomer)
Chaparral Pet, Inc "Apache"
Aeco Corp "Aeco"
Petrolia-Morgan
Petro-Lewis Corp (Morgan)
Freem Oil Co "Freem"
Freem Oil Co. "Moran-Savage"
Rook Wilson Prod (Savage)
E A Bender
E A Parkford
J. Milburn "Trust"
Tesoro Pet Corp "Trust"
Shell "Miller-Bloomer"
Charles Howard "Credit"
L P Reischman "Riewerts"
Transamerica Devl. Co. "Kloffenstein"
Chevron "Lilly Grahola"
State Explor Co "Clarke"